

10/5691

WO 2005/011164

PCT/AU2004/001129

JAP20 Rec'd REC'D 20 21 FEB 2006

- 1 -

SEQUENCE LISTING

<110> Virax Development Pty Ltd

<120> A novel vector

<130> 12486620/JEH

<150> AU 2003904496

<151> 2003-08-21

<160> 11

<170> PatentIn version 3.0

<210> 1

<211> 3271

<212> DNA

<213> virus

<400> 1

| | |
|--|------|
| atggatagaa atatcaattt tagtcctgta tttatagaac ctaggtttaa acacgagttt | 60 |
| ctattatctc ctcaaaggta ttttatata ttagttttg aagtaatagt agctttgatt | 120 |
| atattgaatt ttttctttaa ggaagaaata ttatatacat ttttccgtt agctaaggct | 180 |
| tctaaaaatt caataaatacg totgctggat agaactatgt taaaatgtga agaagatgga | 240 |
| tctttatgtca tttcgagacc ttccggatc tattccgcct tgagttttaga tggttcacccg | 300 |
| gtaaggattt ccgattttagt ttgcgttttca tcgtcaataa atggcgcata ctcataaca | 360 |
| tctccttact ctattttaa cagacgataa cggttttat tcttatctat ccgaabaaag | 420 |
| tgtatgtgaa gctcttgaag acataaatac tattaagaaa tatatggact ttattctaag | 480 |
| cgttcttata cgttctaaag agaaaactaga aaatatacgga tgttcttacg agcctatgag | 540 |
| tgaatcggtt aaggcttta taaaagtaaa ggatgtatgtt acttttagtaa aagcatttac | 600 |
| caagccattt taaaatctc attccgaaaa gatagttta gatagagggtt atacttcgga | 660 |
| ttttgcataa agcgtaataa gactatctatg taaaagcgtt tataatcttc ccgcaaatac | 720 |
| aaaatacata aatccaaacg agaatatgttataaaacaac ctaatatcac tactgaagcg | 780 |
| caactagatc ttccaaaccc acccgctttt tatagtaatgtt ttttcaccca taaaataataa | 840 |
| atacaataat taatttctcg taaaagtaga aaatataatttca taatttatttgc cacggcttag | 900 |
| aactatgttgc tccatgtaca ggatgcaact cctgtcttgc attgcactaa ttcttgact | 960 |
| tgtcacaaac agtgcaccta cttcaagttc gacaaagaaa acaaagaaaa cacagctaca | 1020 |
| actggagcat ttactgctgg atttacagat gattttgaat ggaattaata attacaagaa | 1080 |

VO 2005000464

PL . AL2004/001129

- 2 -

| | |
|---|------|
| tcccaaactc accaggatgc tcacatttia gtttacatg cccaagaagg ccacagaact | 1140 |
| gaaacagctt cagtgtcttg aagaagaact caaacctctg gaggaagtgc tgaatttagc | 1200 |
| tcaaagcaaa aactttcaact taagaccag ggacttaatc agcaatatca acgtaatagt | 1260 |
| tctggacta aaggatctg aaacaacatt catgtgtgaa tatgcagatg agacagcaac | 1320 |
| cattgttagaa ttctgaaca gatggattac ctttgtcaa agcatcatct caacactaac | 1380 |
| ttgattttg tagatctgtc gaccatttag tatcctaaaa ttgaattgta attatcgata | 1440 |
| ataaatgaga gctgtccctc tgcacctcgt cgggacagca agcctcaccc ttggcttctt | 1500 |
| gtccctgcta tctctccgcc tggaccagg ccaagccaag gagttgaagt ttgtgacatt | 1560 |
| ggtgttccgg catggagacc gaggtccat cgagacctt cctaattgacc ccattaagga | 1620 |
| atcctcgtgg ccacaaggat ttggccaact caccaagtgg ggcattggac agcactacga | 1680 |
| actcggaagt tatataagga gaagatacgg gagattcttg aacaactcct ataaacatga | 1740 |
| ccaggtttat atccgaagca cagatgttga caggactctg atgagcgcta tgacaaacct | 1800 |
| cgcagccctg ttccccctg agggatcag catctggaaat cccagactgc tctggcagcc | 1860 |
| catcccagtg cacaccgtgt ctctctctga ggatcggttg ctatacctgc cttcaggga | 1920 |
| ctgtcctcgc ttcaagaac tcaagagtga gactttaaa tctgaggagt tcctgaagag | 1980 |
| gttcaacca tataaaagct tcatagacac cttgccatcg ctgtcgggat tcgaggacca | 2040 |
| ggatctttt gaaatctgga gtaggctta cgacccttta tattgcgaga gtgttcacaa | 2100 |
| ttcaccttc cgcacctggg ccacagagga cgccatgact aagttgaagg agttgtcaga | 2160 |
| attatctctg ttatctcttt atgaaattca caagcagaaa gagaaatcta gactccaggg | 2220 |
| ggcgctcctg gtcaatgaaa ttctcaagaa catgaagctt gcaactcaac cacagaaggc | 2280 |
| caggaagttg atcatgtatt ctgcatatga cactactgtg agtggcctgc agatggcgct | 2340 |
| agagctttat aatggacttc tacctcccta cgcttctgc cacataatgg aattgtacca | 2400 |
| ggataatggg gggacccctcg tggagatgta ctaccggaaat gagacccaga acgagcccta | 2460 |
| cccactcactg ctgccccggct gtacccacag ctgccccttg gagaagtttg cagagctact | 2520 |
| ggacccctgtg atccccccagg actggccac agagtgtatg ggcacaagca accaccaagc | 2580 |
| gtcgctgtaa ttttctgtc gacccatggt tttaaaaag gaattgaaag aaaatattt | 2640 |
| atatcgtaat aaattaaata tgcataagg acatcaggag tctttaaag aacttgaat | 2700 |
| gacaaaacct tatatgttct tcaatgaact agtaggtgaa gaagactata acaaagagtt | 2760 |
| agaaaattct aatactaagt tcaaggaca gggccagctt aagctttat taggagaact | 2820 |

WO 2005.019464

PCT/AU2004/001129

- 3 -

| | |
|---|------|
| ttatccctta aatacattaa tcaagaataa aacgttatgt tcagatacag ttatcggtta | 2880 |
| tatagggtca gcaccaggaa gccatataaz ttatccat cattatatgg atgatcttaa | 2940 |
| aatagattta aaatggatat taatagatgg tagagatcat gatcgatctc tagaaagtct | 3000 |
| taaaaatgtg tctataatac atagggttg agatgaacaa tactgttta agctacgtaa | 3060 |
| tatgatttagg aaaaaccata aaattgtact gatacgat attagatcgc taagaggaaa | 3120 |
| agaacctact agcgaggacc tattacacga ttacgcgttg cagaatcaa tggttaagcat | 3180 |
| tcttaaacca atagcatcga gcctgaaatg gagatgtccg ttccggatc agtggataag | 3240 |
| agacttttac attccttgtg gagatgagtt t | 3271 |

<210> 2
<211> 3271
<212> DNA
<213> virus

| | |
|---|------|
| <400> 2 tacctatctt tatagttaaa atcaggacat aaatatcttg gatccaaatt tgtgtcaaa | 60 |
| gataatagag gagtttccat aaaaatataat aatcaaaaac ttcatatca tcgaaactaa | 120 |
| tataacttaa aaaagaaaatt ctttctttat aatataatgt aaaaaggcaa tcgattcgga | 180 |
| agatttttaa gtatattatc agacgaccta tcttgataca attttacact tcttctacct | 240 |
| agaaactact aaagctctgg aaggccatag ataagccgga actcaaactt accaagtggc | 300 |
| cattcctaaa ggtaaacatc aaacgaaaat agcagttatt taccgcgtag gagtagttgt | 360 |
| agaggaatga gataaaaatt gtctgttatt gcctaaaata agaataagata ggcttttttc | 420 |
| actactactt cgagaacttc ttttattatg ataattctt atatacctga aataagattc | 480 |
| gcaagaatat gcaagatttc tctttgtatct tttatatacct acaagaatgc tcggatactc | 540 |
| acttagcaaa ttccgagaat aatttcattt cctactacca tgaaatcatt ttctgtaaatg | 600 |
| gttcggtAAC aatttaggag taaggcttt ctatcaaattt ctatctccaa tatgaagcct | 660 |
| aaaacgatat tcgcattatt ctgatagatc attttcgta atatatgaag ggctttatgt | 720 |
| ttttatgtat ttaggtttgc tcttatacat atattgttg gattataatgt atgacttcgc | 780 |
| gttgcgttag aaggtttggg tgggcgaaaa atatcatca aaaagtgggt atttattatt | 840 |
| tatgttatta attaaagagc attttcatct ttatataag attaaataac gtgccagatc | 900 |
| ttgatcacct aggtacatgt cctacgttga ggacagaacg taacgtgatt aagaacgtga | 960 |
| acagtgtttg tcacgtggat gaagtcaag ctgtttcttt tgttatcttt gtgtcgatgt | 1020 |

WO 2005 19464

PCT/AU2004/00112

- 4 -

| | |
|---|------|
| tgacctcgta aatgacgacc taaaatgtcta ctaaaactta ccttaattat taatgttctt | 1080 |
| agggttttag gggccatcag agtgtaaatt caaaatgtac gggtttctcc ggtgtcttga | 1140 |
| cgtcgaa gtcacagatc ttcttcttga gttggagac ctcttcacg acttaaatcg | 1200 |
| agtttcgttt ttgaaagtga attctgggc cctgaatttag tcgttatagt tgcatatca | 1260 |
| agaccttgcat ttccctagac ttgttgtaa gtacacactt atacgtctac tctgtcgtrg | 1320 |
| gtaacatctt aaagacttgt ctacctaattt gaaaacagtt tcgttagtaga gttgtgattt | 1380 |
| aactaaaaac atctagacag ctggtaaattc ataggatttt aacttaacat taatagctat | 1440 |
| tatattactct cgacaggag acgtggagca gccctgtcggt tcggagtgaa aaccgaagaa | 1500 |
| cgaggacgtt agagaggcgg acctgggtcc gggtcggttc ctcaacttca aacactgtaa | 1560 |
| ccacaaggcc gtacctctgg ctccagggtt gctctggaaa ggattactgg ggttaattct | 1620 |
| taggacacc ggtgttccca aaccgggttga gtgggttccacc ccgttaccctg tcgtgtatgt | 1680 |
| tgagccttca atatatccctt ctttatgtcc ctctaaagaaat ttgttggagga tatrtgtact | 1740 |
| ggtccaaata taggcttcgt gtctacaact gtcctgagac tactcgcgtt actgtttgg | 1800 |
| gcgtcgggac aaagggggac tcccctagtc gttagaccca gggtctgacg agaccgtcg | 1860 |
| gtagggtcac gtgtggcaca gagagagact cctagccaac gatatggacg gaaagtccct | 1920 |
| gacaggagcg aaagttcttg agttctcaact ctgaaattttt agactccttca aggacttctc | 1980 |
| cgaagtttgtt atattttca agtatctgtt gaacggtagc gacagcccttta agctccttgtt | 2040 |
| cctagaaaaa ctttagaccc catccaaat gctggaaat ataacgtctt cacaagtgtt | 2100 |
| aaagtggaaag gcgtggaccc ggtgtctctt gcggtactga ttcaacttcc tcaacagtct | 2160 |
| taatagagac aatagagaaaa taccttaagt gtctgttctt ctcttttagat ctgaggtccc | 2220 |
| cccgcaggac cagttactttt aagagttctt gtacttcgaa cggtgagttt gtgtcttccg | 2280 |
| gtccttcaac tagtacataa gacgtataact gtgtatgacac tcaccggacg tctaccgca | 2340 |
| tctcgaaata ttacctgaag atggagggat gcaaggacg gtgtattacc ttaacatgg | 2400 |
| cctattaccc ccctggaaac acctctacat gatggcccttta ctctgggtct tgctcggtt | 2460 |
| gggtgagtgc gacggccccga catgggtgtc gacgggagac ctcttcaaaac gtctcgatga | 2520 |
| cctggggcac tagggggtcc tgaccgggtg tctcacatac ccgtgttcgt tggtggttcg | 2580 |
| cagcgacatt aaaaagacag ctgggtacca acaatttttc cttaacttcc ttttataaaaa | 2640 |
| tatagcatta tttaattttt acgtacttcc ttttttttttcc agaaaatttc ttgtacttta | 2700 |

WO 2005/019464

PCT/HK 2004/00129

- 5 -

ctgttttggaa atatacaaga agttacitga tcatccactt cttctgatat tgtt-ctcaa 2760
tcttttaaga ttatgattca aagtccctgt cccggtcgaa ttcgacaata atcctcttga 2820
aataazsgaat ttatgttaatt agtttttattt ttgcatacata agtcataatgtc aatagcacat 2860
atatcccagt cggtggccctt cggttatattt aaaaatata gtaatataacc tactagaatt 2940
ttatctaatttttacctata attatctacc atctcttagta ctagctagag atctttcaga 3000
atttttacac agatattatgt tatccaaaca tctacttgtt atgaacaaat tcgatgcatt 3060
atactaatacc tttttggat tatcaacatga ctatagtcta taatctagcg attctccctt 3120
tcttggatga tcgctcctgg ataatgtgct aatgcgcAAC gtcttagttt accatctgta 3180
agaatttggt tatacgtagct cggactttac ctctacaggc aaaggcctAG tcacccatttc 3240
tctqaaaatgt taaggaacac ctctactcaa a 3271

<210> 3
<211> 3286
<212> DNA
<213> virus

<400> 3
atggatagaa atatcaattt tagtcctgta tttatagaac ctaggittaa acacgagttt 60
ctattatctc ctc当地ggta tttt当地ata ttagttttg aagtaatagt agctttgatt 120
atattgaatt ttttctttaa ggaagaaaata ttatatacat ttttccgtt agctaaggct 180
tctaaaaatt caataaaatag tctgctggat agaactatgt taaaatgtga agaagatgga 240
tctt当地gtga ttccgagacc ttccggatc tattccgcct tgagttttaga tggttcacccg 300
gtaaggattt ccgattgttag tttgcttttca tcgtcaataa atggcgcatc ctcatcaaca 360
tctccttact ctattttaa cagacgataa cgatcttat tcttatctat ccgaaaaaaag 420
tgatgatgaa gctcttgaag acataaaatac tattaagaaa tatatggact ttattctaaag 480
cgttcttata cgttcttaaag agaaactaga aaatatagga tgttcttacg agcctatgag 540
tgaatcgttt aaggcttta taaaagtaaa ggatgatggt acttttagtaa aagcatttac 600
caagccattt ttaaatcctc attccgaaaa gatagtttta gatagaggtt atacttcgg 660
ttttgctata agcgtataa gactatctag taaaagcagt tatatacttc ccccaaatac 720
aaaatacata aatccaaacg agaataatgta tataaacaac ctaatatcac tactgaagcg 780
caacttagatc ttccaaaccc acccgcttt tatagtaagt ttttcacccca taaataataa 840
atacaataat taatttctcg taaaagtaga aaatatattc taatttattg cacggtctag 900

WO 2005/019464

PCT/AU2004/001129

- 6 -

| | | | | | | |
|----------------------|----------------------|-------------|-------------|-------------|------------|------|
| aactagtggatccatgtaca | gcatgcacactcctgtttgc | at:ycactaa | ttcttcact | 960 | | |
| tgtcacaaac | agtgcaccta | tttcaagttc | gacaaagaaa | acaaagaaaa | cacagctaca | 1020 |
| actggagcat | ttactgctgg | atttacagat | gattttgaat | ggaatttaata | attacaagaa | 1080 |
| tcccaaactc | accaggatgc | tcacatcaa | gttttacatg | ccccaaagg | ccacagaact | 1140 |
| gaaacagctt | cagtgtctag | aagaagaact | caaacctctg | gaggaagtgc | tgaatttagc | 1200 |
| tcaaagcaaa | aactttcact | tsagacccag | ggacttaatc | agcaatatac | acgttaatgt | 1260 |
| tctggaaacta | aaggatctg | aaacaacatt | catgtgtgaa | tatgcagatg | agacagcaac | 1320 |
| cattgttggaa | tttctgaaca | gatggattac | cttttgtcaa | agcatcatct | caacactnac | 1380 |
| ttgatttttg | tagatctgtc | gaccatttag | tatcctaaaa | ttgaatttgc | attatcgata | 1440 |
| ataaaatgaga | gctgcacccc | tcctcctggc | cagggcagca | agccttagcc | ttggcttctt | 1500 |
| gtttctgctt | ttttctggc | tagaccgaag | tgtactagcc | aaggagtgt | agtttgcac | 1560 |
| tttgggtttt | cggcatggag | accgaagtcc | cattgacacc | tttcccactg | accccataaa | 1620 |
| ggaatcctca | tggccacaaag | gatttggcca | actcacccag | ctgggcatgg | agcagcatta | 1680 |
| tgaacttggatccatgtaca | gagtatataa | gaaagagata | tagaaaattc | ttgaatgagt | cctataaaca | 1740 |
| tgaacaggtt | tatattcgaa | gcacagacgt | tgaccggact | ttgatgagtg | ctatgacaaa | 1800 |
| cctggcagcc | ctgtttcccc | cagaagggtgt | cagcatctgg | aatcctatcc | tactctggca | 1860 |
| gccccatcccc | gtgcacacag | ttcccttttc | tgaagatcag | ttgctataacc | tgctttcag | 1920 |
| gaactgcctt | cgtttcaag | aacttgagag | tgagactttg | aaatcagagg | aattccagza | 1980 |
| gaggctgcac | ccttataagg | attttatagc | taccttggga | aaactttcag | gattacatgg | 2040 |
| ccaggacctt | tttggaaattt | ggagtaaagt | ctacgaccct | tttatattgt | agagttca | 2100 |
| caatttcact | ttacccctcct | gggccactga | ggacaccatg | actaagttga | gagaatttgc | 2160 |
| agaatttgcctt | ctccctgtccc | tctatggaaat | tcacaaggcag | aaagagaaaat | ctaggctcca | 2220 |
| aggggggtgtc | ctggcataatg | aaatcctcaa | tcacatgaag | agagcaactc | agataccaag | 2280 |
| ctacaaaaaaaa | cttatcatgtt | attctgcgc | tgacactact | gtgagtgcc | tacagatggc | 2340 |
| gctagatgtt | tacaacggac | tccttcctcc | ctatgcttct | tgccacttga | cggaatttga | 2400 |
| ctttgagaag | ggggagttact | ttgtggagat | gtactatcg | aatgagacgc | agcacgagcc | 2460 |
| gtatccctc | atgctacctg | gctgcagccc | tagctgtcct | ctggagaggt | ttgctgagct | 2520 |
| ggttggccct | gtgatccctc | aagactggc | cacggagtgt | atgaccacaa | acagccatca | 2580 |
| aggtaactgag | gacagtacag | attaattttt | ctgtcgaccc | atggttgtta | aaaaggaatt | 2640 |

WO 2005/019461

PCT/AT/2004 001179

- 7 -

| | |
|--|------|
| gaaagaaaaat attttatatac gtaataaaatt aaatatgcac gaaggacatc aggacgtt | 2700 |
| taaagaactt gaaatgacaa aacccatat gttttcaat gaacttagtag gtgaagaaga | 2760 |
| ctataacaaa gagtttagaaa attctaatac taagttcaa ggacaggccc agcttaagct | 2820 |
| gttatttagga gaactttatt tcttaatac attaatcaag aataaaacgt tatgttcaga | 2880 |
| tacagttatc gtgttatatacg ggtcagcacc aggaagccat atazatttt tatatcatta | 2940 |
| tatggatgt cttaaaatag atttaaaatg gatattaata gatggtagag atcatgatecg | 3000 |
| atctctagaa agtcttaaaa atgtgtctat aatacatagg tttgttagatg aacaatactt | 3060 |
| gtttaagcta cgttaatatga ttagaaaaaa ccataaaatt gtactgatat cagatattag | 3120 |
| atcgctaaga ggaaaagaac ctactagcga ggaccttata cacgattacg cggtgcagaa | 3180 |
| tcaaatggta agcatttta aaccaatagc atcgagcctg aaatggagat gtccgttcc | 3240 |
| ggatcagtgg ataagagact ttacattcc ttgtggagat gagttt | 3286 |

<210> 4
<211> 3286
<212> DNA
<213> virus

| | |
|--|-----|
| <400> 4 tacctatctt tatagttaaa atcaggacat aaatatcttg gatccaaatt tgtgctcaas | 60 |
| gataatagag gagtttccat aaaaatatat aatcaaaaac ttcatatca tcgaaactaa | 120 |
| tataacttaa aaaagaaaatt ctttctttat aatatatgtt aaaaaggcaa tcgattcgga | 180 |
| agattttaa gttatttatac agacgaccta tcttgataca attttacact tcttctacct | 240 |
| agaaaactact aaagctctgg aaggccatag ataagccgga actcaaactc accaagtggc | 300 |
| cattcctaaa ggctaacatc aaacgaaaat agcagttatt taccgcgttag gagtagttgt | 360 |
| agaggaatga gataaaaatt gtctgttatt gcctaaaata agaatagata ggcttttcc | 420 |
| actactactt cgagaacttc tgtattttatg ataattctt atataacctga aataagattc | 480 |
| gcaagaatat gcaagatttc tcttigatct ttatatactt acaagaatgc tcggataactc | 540 |
| acttagcaaa ttccgagaat aatttcattt cctactacca tgaaatcatt ttctgttata | 600 |
| gttcggtaac aatttaggag taaggctttt ctatcaaaaat ctatctccaa tatgaagcct | 660 |
| aaaacgatat tcgcattatt ctgatagatc atttttgtca atatatgaag ggcgtttatg | 720 |
| ttttatgtat ttaggtttgc tcttatacat atatttgtt gattatagtg atgacttcgc | 780 |
| gttgcgttag aaggtttggg tggcgaaaaa atatcattca aaaagtgggt atttatttt | 840 |

WGS 2005/019464

PCT AT 2004/001129

- 8 -

| | | | | | | |
|------------|--------------|------------|-------------|-------------|-------------|------|
| tatgttatta | ataaaagac | attttcatct | tttatataag | ccttaataac | gccccagatc | 900 |
| ttgatcaact | aggcacatgt | cctacgttga | ggacagaacg | taacgtgatt | aagaacgttga | 960 |
| acagtgttg | tcacgtggat | gaagttcaag | ctgtttcttt | tgtttctttt | gtgtcgatgt | 1020 |
| tgacctcg | aatgacgacc | taaatgtcta | ctaaaactta | ccttaattat | taatgttctt | 1080 |
| agggtttag | tggtcctacg | agtgtaaatt | caaaaatgtac | gggttcttcc | ggtgtcttga | 1140 |
| crrtgcgaa | gtcacagatc | ttcttcttga | gttggagac | ctccctcacg | acttaaattcg | 1200 |
| agtttcgtt | ttgaaagtga | attctgggc | cctgaatttag | tcgttatagt | tgcattatca | 1260 |
| agaccttgc | ttcccttagac | tttggtaaa | gtacacactt | atacgtctac | tctgtcgttg | 1320 |
| gtaacatctt | aaagacttgt | ctacctaatt | gaaaaacagt | tcgttagtaga | gttgtgattt | 1380 |
| aactaaaaac | atctagacag | ctggtaatc | ataggatttt | aacttaacat | taatagctat | 1440 |
| tatTTactct | cgacgtgggg | aggaggaccg | gtccccgtgt | tcggaatcgg | aaccgaagaa | 1500 |
| caaagacgaa | aaaaagacccg | atctgggttc | acatgatcgg | ttccctcaact | tcazacactg | 1560 |
| aaaccacaaa | gccgtacctc | tggcttcagg | gttaactgtgg | aaagggtgac | tgggttattt | 1620 |
| ccttaggagt | accgggtttc | ctaaaccgg | tgagtgggtc | gaccggtaacc | tcgtcgtaat | 1680 |
| acttgaacct | ctcatatatatt | cttctctat | atcttttaag | aacttactca | ggatattttgt | 1740 |
| acttgc当地 | atataagctt | cgtgtctgca | actggcctga | aactactcac | gatactgttt | 1800 |
| ggaccgtcgg | gacaaagggg | gtcttccaca | gtcgttagacc | ttaggatagg | atgagaccgt | 1860 |
| cggtagggc | cacgtgtgtc | aggagaaag | acttctagtc | aacgatatgg | acggaaagtc | 1920 |
| cttgacggga | gcaaaagttc | ttgaactctc | actctgaaac | tttagtctcc | ttaaggtctt | 1980 |
| ctccgacgtg | ggaatattcc | taaaatatcg | atggaaccct | tttgaagtc | ctaattgtacc | 2040 |
| ggtcctggaa | aaaccttaaa | cctcattca | gatgctggga | aataaaacac | tctcacaagt | 2100 |
| gttaaagtga | aatgggagga | cccggtgact | cctgtggtac | tgattcaact | ctcttaacag | 2160 |
| tcttaacagg | gaggacaggg | agataacctt | agtgttcgtc | tttctcttta | gatccgaggt | 2220 |
| tcccccacag | gaccagttac | tttaggagtt | agtgtacttc | tctcggtgag | tctatggttc | 2280 |
| gatgtttttt | gaatagtaca | taagacgcgt | actgtgtatga | cactcaccgg | atgtctaccg | 2340 |
| cgatctacaa | atgtgcctg | aggaaggagg | gatacgaaga | acggtaact | gccttaacat | 2400 |
| gaaactcttc | cccctcatga | aacacctcta | catgatagcc | ttactctgcg | tcgtgctcgg | 2460 |
| cataggggag | tacgatggac | cgacgtcggg | atcgacagga | gacctctcca | aacgactcga | 2520 |

W01205/019464

PCT/AU2004/001129

- 9 -

| | |
|---|------|
| ccaaacggga cactagggag ttctgaccag gtgcctcaca tactggtgtt tgtcggttgt | 2580 |
| tccatgactc ctgtcatgtc taataaaaaa gacagctggg taccacaat ttcccttta | 2640 |
| ctttccctta taaaatatac cattatcaa tttatacgtta cttcctgttag tcctcaga&& | 2700 |
| atttcttgc aaatcttgc ttggaaatata caagaagtttta ctgtatc cacttcttct | 2760 |
| gatattgttt ctcaatcttta taagattatg attcaaagttt cctgtcccggtcgaattcga | 2820 |
| caataatccctt ctgaaataaa agaattatg taatgttc ttatgttgcatacgtct | 2880 |
| atgtcaatag cacatatac ccagtcgtgg tccctcggtt tattttaaaa atatagtaat | 2940 |
| ataccatcta gaattttatc taaatttac ctataattat ctaccatctc tagtactago | 3000 |
| tagagatctt tcagaatttt tacacagata ttatgtatcc aaacatctac ttgttatgaa | 3060 |
| caaattcgat gcattatact aatcctttttt ggtattttaa catgactataa gtctataatc | 3120 |
| tagcgattct cttttcttg gatgatcgct cctggataat gtgctaatgc gcaacgtctt | 3180 |
| agtttaccat tcgtaagaat ttgggtatcg tagctcgac tttacctcta caggcaaagg | 3240 |
| ccttagtacc tattctctga aaatgttaagg aacacctcta cttcaaa | 3286 |

<210> 5
<211> 381
<212> PRT
<213> rat

<400> 5
Met Arg Ala Val Pro Leu His Leu Val Gly Thr Ala Ser Leu Thr Leu
1 5 10 15

Gly Phe Leu Leu Leu Ser Leu Arg Leu Asp Pro Gly Gln Ala Lys
20 25 30

Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Gly Pro
35 40 45

Ile Glu Thr Phe Pro Asn Asp Pro Ile Lys Glu Ser Ser Trp Pro Gln
50 55 60

Gly Phe Gly Gln Leu Thr Lys Trp Gly Met Gly Gln His Tyr Glu Leu
65 70 75 80

Gly Ser Tyr Ile Arg Arg Arg Tyr Gly Arg Phe Leu Asn Asn Ser Tyr
85 90 95

Lys His Asp Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr Leu
100 105 110

Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly Ile
115 120 125

WO 2005/019464

PCT/AL2004/001129

- 10 -

Ser Ile Trp Asn Pro Arg Leu Leu Trp Gln Pro Ile Pro Val His Thr
130 135 140

Val Ser Leu Ser Glu Asp Arg Leu Leu Tyr Leu Pro Phe Arg Asp Cys
145 150 155 160

Pro Arg Phe Gln Glu Leu Lys Ser Glu Thr Leu Lys Ser Glu Glu Phe
165 170 175

Leu Lys Arg Leu Gin Pro Tyr Lys Ser Phe Ile Asp Thr Leu Pro Ser
180 185 190

Leu Ser Gly Phe Glu Asp Gln Asp Leu Phe Glu Ile Trp Ser Arg Leu
195 200 205

Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Phe Arg Thr
210 215 220

Trp Ala Thr Glu Asp Ala Met Thr Lys Leu Lys Glu Leu Ser Glu Leu
225 230 235 240

Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gin Lys Glu Lys Ser Arg
245 250 255

Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Lys Asn Met Lys Leu
260 265 270

Ala Thr Gln Pro Gln Lys Ala Arg Lys Leu Ile Met Tyr Ser Ala Tyr
275 280 285

Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Glu Leu Tyr Asn Gly
290 295 300

Leu Leu Pro Pro Tyr Ala Ser Cys His Ile Met Glu Leu Tyr Gln Asp
305 310 315 320

Asn Gly Gly Thr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln Asn
325 330 335

Glu Pro Tyr Pro Leu Thr Leu Pro Gly Cys Thr His Ser Cys Pro Leu
340 345 350

Glu Lys Phe Ala Glu Leu Leu Asp Pro Val Ile Pro Gln Asp Trp Ala
355 360 365

Thr Glu Cys Met Gly Thr Ser Asn His Gln Ala Ser Leu
370 375 380

<210> 6
<211> 386
<212> PRT
<213> human

<400> 6
Met Arg Ala Ala Pro Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu
1 5 10 15

WO 2005/019464

PC1 AU2004-001129

- 11 -

Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
20 25 30

Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
35 40 45

Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
50 55 60

Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
65 70 75 80

Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
85 90 95

Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
100 105 110

Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
115 120 125

Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His
130 135 140

Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
145 150 155 160

Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
165 170 175

Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
180 185 190

Lys Leu Ser Gly Leu His Gln Asp Leu Phe Gly Ile Trp Ser Lys
195 200 205

Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
210 215 220

Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
225 230 235 240

Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
245 250 255

Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
260 265 270

Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
275 280 285

His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
290 295 300

Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
305 310 315 320

WO 2005/019464

PCT/AT 2004/001122

- 12 -

Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Gln Thr Gln
325 330 335

His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
340 345 350

Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
355 360 365

Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
370 375 380

Thr Asp
385

<210> 7
<211> 156
<212> PRT
<213> human

<400> 7
Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ile Leu Ala Leu
1 5 10 15

Val Thr Asn Ser Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Lys Lys
20 25 30

Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile Leu
35 40 45

Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu Thr
50 55 60

Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys Gln Leu Gln
65 70 75 80

Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu Ala
85 90 95

Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn Ile
100 105 110

Asn Val Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met Cys
115 120 125

Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg Trp
130 135 140

Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr
145 150 155

<210> 8
<211> 30
<212> DNA
<213> rat

<400> 8

WO 2005/019464

PCT/AU2004/001129

- 13 -

| | |
|----------------------------------|----|
| ctctgaggat cggttgctat acctgccttt | 30 |
| | |
| <210> 9 | |
| <211> 30 | |
| <212> DNA | |
| <213> rat | |
| | |
| <400> 9 | |
| acttagtcat ggcccccct gtggccagg | 30 |
| | |
| <210> 10 | |
| <211> 30 | |
| <212> DNA | |
| <213> human | |
| | |
| <400> 10 | |
| ttcaggatta catggccagg accttttgg | 30 |
| | |
| <210> 11 | |
| <211> 30 | |
| <212> DNA | |
| <213> human | |
| | |
| <400> 11 | |
| ctcagtacct ttagggctgt ttgtggtcat | 30 |

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.